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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,241	07/21/2006	Walter Callen	564462005501	3119

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VERENIUM C/O MOFO S.D.
12531 HIGH BLUFF DRIVE
SUITE 100
SAN DIEGO, CA 92130-2040

EXAMINER	
HUTSON, RICHARD G	

ART UNIT	PAPER NUMBER
1652	

MAIL DATE	DELIVERY MODE
02/11/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,241	CALLEN, WALTER	
	Examiner	Art Unit	
	Richard G. Hutson	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *See Continuation Sheet* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 1,37,44,47,61,65,72,75,99,106-108,112,114,116,118,119,122,129,140,144,150,155,178,204-206,209,213,216,222,224,235 and 239.

Continuation of Disposition of Claims: Claims subject to restriction and/or election requirement are 1,37,44,47,61,65,72,75,99,106-108,112,114,116,118,119,122,129,140,144,150,155,178,204-206,209,213,216,222,224,235 and 239.

DETAILED ACTION

Applicants amendment cancelling claims 2 to 36, 38 to 43, 45, 46, 48 to 60, 62 to 64, 66 to 71, 73, 74, 76 to 98, l00 to 105, 109 to 111,113, 115, 117, 120, 121,123to 128, 130to 139, 141 to 143, 145to 149, 151 to 154, 156 to 177, 179 to 203,207, 208, 210 to 212, 214, 215,217 to 221,223,225 to 228, 230 to 234 and 236 to 238, in the paper of 7/21/2006, is acknowledged. Claims 1, 37, 44, 47, 61, 65, 72, 75, 99, 106-108, 112, 114, 116, 118, 119, 122, 129, 140, 144, 150, 155, 178, 204, 205, 206, 209, 213, 216, 222, 224, 235 and 239 are present and at issue for examination.

Election/Restriction

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1, 37, 44, 47, 61, 65, 72, 129, 229, 235, drawn to isolated nucleic acid, probe, primer, RNai molecule, transformed cell, transgenic animal, antisense oligonucleotide, method of producing a recombinant polypeptide, classified in class 536 subclass 23.2.

II. Claim 75, 99, 106-108, 112, 114, 119, 122, 204, 239, drawn to an isolated xylose isomerase polypeptide, classified in class 435, subclass 233.

III. Claims 116, 118, drawn to an isolated antibody, classified in class 530, subclass 387.1.

IV. Claims 140, 144, drawn to a computer system, computer readable medium, classified in class 702, subclass 19.

V. Claims 150, , drawn to a method for isolating, detecting or recovering a nuclide acid, classified in class 435, subclass 6.

VI. Claims 155, 178, drawn to a method for generating a variant nucleic acid, classified in class 435, subclass 91.1.

VII. Claims 205, 206, 209, 213, 216, 222, 224, to a method for catalyzing an isomerization of glucose to fructose, classified in 435, subclass 137.

For each of inventions I-VII above, restriction to one of the following is also required under 35 USC 121. Therefore, election is required of one of inventions I-VI and one of inventions (A)-(B).

(A). SEQ ID No: 1 or a sequence encoding SEQ ID No: 2.

(B). SEQ ID No: 3 or a sequence encoding SEQ ID No: 4.

The inventions are distinct, each from the other because of the following reasons:

Inventions (A)-(B) are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions, represent structurally different polypeptides and the polynucleotides encoding them. Therefore, where structural identity is required, such as for hybridization or expression, the different sequences have different effects.

Inventions I, II, III IV are directed to related products. The related inventions are distinct if: (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the inventions as claimed have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. Specifically, the polynucleotides of group I are made of nucleic acid molecules and can be used in hybridization assays as well as in expression methods for producing the polypeptides of group II. The polypeptides of group II and the antibody of group III is made of amino acid molecules and the polypeptides of group II function as isomerase proteins and the antibodies function in binding to polypeptides. The computer system and computer readable medium of Group IV is a device not structurally related to either the polynucleotide, protein or antibody groups. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

Inventions I and inventions V and VI are related as product and processes of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the

polynucleotide of group I can be used in a materially different process such as one in which the polynucleotide is used to synthesize the encoded protein.

Inventions II and inventions V and VI are related as product and processes of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the polypeptide of group II can be used in a materially different process such as one in which the polypeptide is used to synthesize the antibody of Group III.

Inventions V, VI and VII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions each of the process of Groups V, VI and VII comprise separate steps, utilize separate substrates and produce separate products or results...

Inventions I and VII are directed to an unrelated product and process. Product and process inventions are unrelated if it can be shown that the product cannot be used in, or made by, the process. See MPEP § 802.01 and § 806.06. In the instant case, the polynucleotide of Group I is not used for the method of catalysis of Group VII.

Inventions II, III and IV and Inventions V and VI are directed to an unrelated products and processes. Product and process inventions are unrelated if it can be shown that the product cannot be used in, or made by, the process. See MPEP §

802.01 and § 806.06. In the instant case, the products of Groups II, III and IV are not used for the methods of Groups V and VI.

Because these inventions are distinct for the reasons given above, have acquired a separate status in the art as shown by their different classification, and the literature and sequence searches required for each of the Groups are not required for another of the Groups, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder**. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard G. Hutson whose telephone number is 571-272-0930. The examiner can normally be reached on M-F, 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nashaat T. Nashed can be reached on 571-272-0934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)? If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

rgh
2/9/2009

/Richard G Hutson/
Primary Examiner, Art Unit 1652